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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/028,069	12/20/2001	Arunkumar B. Thippeswamy	CISCP740	2860
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EXAMINER SAM, PHIRIN				
ART UNIT 2619		PAPER NUMBER		
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

**Office Action Summary****Application No.**

10/028,069

**Applicant(s)**

THIPPESWAMY ET AL.

**Examiner**

Phirin Sam

**Art Unit**

2619

**Period for Reply** -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 26 December 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-11, 13-22 and 24-36 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-11, 14-22, 25-33 and 36 is/are rejected.
- 7) ☒ Claim(s) 13, 24, 34 and 35 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 02 November 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-949)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Introduction*

Claims 12 and 23 have been canceled.

Claims 11, 13, 22, 24, and 32 have been amended.

Claims 1-11, 13-22, and 24-36 are presently pending in this application.

### *Claim Rejections - 35 USC § 102*

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1, 4-11, 14-17, 20-22, 25, 26, 32, 33, and 36 are rejected under 35 U.S.C. 102(e) as being anticipated by US 2002/0065907 (hereinafter referred as “Cloonan”).

**Regarding claim 1**, Cloonan discloses a method for forwarding a packet upstream from a subscriber unit to a central access point, the packet including destination information and source information, the method comprising:

- (a) determining a first value associated with the packet, the first value being one of a predetermined set of values, wherein the first value is determined using the destination information and the source information (see Figs. 1 and 2a-2, paragraph [0066], [0068]);
- (b) identifying a first service flow that is suitable for use to forward the packet, the first service flow being one of a set of service flows between the source and the destination, wherein

the first service flow is identified using the first value associated with the packet (see Figs. 1 and 2a-2c, paragraphs [0054], [0113], [0132], [0061], [0066]);

(c) sending the packet on the first service flow (see Fig. 1, paragraph [0054]).

**Regarding claim 4**, Cloonan discloses the method further including assigning the first value to the first service flow (see Figs. 2a-2c, paragraphs [0050], [0054]).

**Regarding claim 5**, Cloonan discloses the destination information is a destination Internet Protocol (IP) address and the source information is a source IP address (see Figs. 2a-2c, paragraphs [0039], [0132], [0043]).

**Regarding claims 6 and 14**, Cloonan discloses the central access point is a headend (see Fig. 1, paragraphs [0006], [0052]).

**Regarding claims 7 and 15**, Cloonan discloses the subscriber unit and the headend are associated with a Data Over Cable Service Interface Specifications (DOCSIS) protocol (see paragraphs [0042], [0049], [0057]-[0059]).

**Regarding claims 8 and 16**, Cloonan discloses the subscriber unit is a cable modem and the central access point is a cable modem terminating system, and wherein the cable modem and the cable modem terminating system are associated with a DOCSIS protocol (see Figs. 1 and 2a-2c, paragraphs [0042], [0049], [0057]-[0059]).

**Regarding claim 9**, Cloonan discloses the set of service flows includes up to approximately sixteen service flows (see paragraphs [0049], [0054], [0070]).

**Regarding claim 10**, Cloonan discloses the packet is part of a session, the session including multiple packets, wherein each packet of the multiple packets is associated with the first value and is sent on the first service flow (see Figs. 2a-2c, paragraph [0050], [0054]-[0056]).

**Regarding claim 11**, Cloonan discloses a method for forwarding packets associated with a session upstream from a subscriber unit to a central access point, the method comprising:

- (a) identifying a number (N) of available service flows between the subscriber unit and the central access point (see Figs. 1, 2a-2c, paragraphs [0009], [0054], [0061], [0066], wherein the multiple-system operator can provide (identify) the new service flows to the subscriber(s));
- (b) sending a first packet from the subscriber unit to the central access point on a first service flow included in the N available service flows (see Figs. 2a-2c, paragraphs [0048], [0059], [0066], [0068]);
- (c) sending an Nth packet from the subscriber unit to the central access point on an Nth service flow included in the N available service flows (see Figs. 1 and 2a-2c, paragraphs [0059], [0068]).

**Regarding claim 17**, Cloonan discloses a device for forwarding a packet upstream to a central access point, the packet including destination information and source information, the device comprising:

- (a) means for causing a first value associated with the packet to be determined, the first value being one of a predetermined set of values, wherein the means for causing the first value to be determined include means for causing the destination information and the source information to be used (see Figs. 1 and 2a-2c, paragraphs [0009], [0054], [0061], [0066], wherein the multiple-system operator can provide (identify) the new service flows to the subscriber(s));
- (b) means for causing a first service flow that is suitable for use to forward the packet to be identified, the first service flow being one of a set of service flows between the source and the central access point, wherein the means for causing the first service flow to be identified include

means for causing first service flow to be identified using the first value associated with the packet (see Figs. 2a-2c, paragraphs [0048], [0059], [0068]);

(c) means for causing the packet to be sent on the first service flow (see Figs. 1 and 2a-2c, paragraphs [0059], [0068]).

**Regarding claim 20**, Cloonan discloses the device is one of a subscriber unit that supports a DOCSIS protocol and a cable modem that supports the DOCSIS protocol (see Fig. 1, paragraphs [0042], [0049], [0057]-[0059]).

**Regarding claim 21**, Cloonan discloses the device is one of a subscriber unit and a cable modem (see Fig. 1, paragraphs [0006], [0052]).

**Regarding claim 22**, Cloonan discloses a device for forwarding packets associated with a session upstream to a central access point, the device comprising:

(a) means for causing a number (N) of available service flows to the central access point to be identified (see Figs. 1 and 2a-2c, paragraphs [0009], [0054], [0061], [0066], wherein the multiple-system operator can provide (identify) the new service flows to the subscriber(s));

(b) means for causing a first packet to be sent to the central access point on a first service flow included in the N available service flows (see Figs. 2a-2c, paragraphs [0048], [0059], [0068]);

(c) means for causing an (N-1)th packet to be sent to the central access point on an (N-1)th service flow (see Fig. 1, paragraphs [0042], [0048]);

(d) means for causing an Nth packet to be sent to the central access point on an Nth service flow included in the N available service flows (see Figs. 2a-2c, paragraphs [0048], [0059], [0068]);

(e) means for causing a second packet to be sent to the central access point on a second service flow, wherein the second packet is substantially in sequence behind the first packet and before the (N-1)th packet and Nth packet (see Figs. 1 and 2a-2c, paragraphs [0054], [0055], [0058]).

**Regarding claim 25**, Cloonan discloses the device is one of a subscriber unit that supports a DOCSIS protocol and a cable modem that supports the DOCSIS protocol (see Fig. 1, paragraphs [0042], [0049], [0057]-[0059]).

**Regarding claim 26**, Cloonan discloses the device is one of a subscriber unit and a cable modem (see Fig. 1, paragraphs [0006], [0052]).

**Regarding amended claim 32**, Cloonan discloses a device for forwarding packets to a central access point, the device comprising:

- (a) a receiving component, the receiving component being arranged to receive a plurality of packets that are to be forwarded to a central access point by a DOCSIS protocol (see Fig. 1, paragraphs [0058], [0059], [0122]);
- (b) a plurality of service flow identifiers which are associated with a plurality of service flows of said DOCSIS protocol (see Fig. 2a-2c, paragraphs [0059], [0061], [0066], [0122]);
- (c) a routing component, the routing component being arranged to receive the plurality of packets from the receiving component; the routing component further being arranged to provide a plurality of packets to the plurality of service flow identifiers of said DOCSIS protocol on a substantially round-robin basis (see Fig. 1, paragraphs [0005], [0028], [0029], [0039], [0059], [0122]).

**Regarding claim 33**, Cloonan discloses the routing component is further arranged to provide a first packet of the plurality of packets to a first service flow identifier of the plurality of service flow identifiers and to provide an Nth packet of the plurality of packets to an Nth service flow identifier of the plurality of service flow identifiers (see Figs.1 and 2a-2c, paragraphs [0068]-[0072], [0097], [0121]).

**Regarding claim 36**, Cloonan discloses the device is one of a subscriber unit and a cable modem (see Fig. 1, paragraphs [0006], [0052]).

***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

5. Claims 2, 3, 18, 19, and 27-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent 6,223,222 (hereinafter referred as “Fijolek”) in view of US 2002/0065907 (hereinafter referred as “Cloonan”).



**Regarding claims 2, 3, 18, 19, and 27-31**, Fijolek discloses a device for forwarding packets to a central access point through a number of available service flows (see Fig. 1, col. 2, lines 54-64), the device comprising:

- (a) a routing component (see Fig. 1, col. 5, lines 60-67, col. 6, lines 1-37);
- (b) a hashing component (see Fig. 2, element 66), the hashing component being arranged to apply a hash function to information associated with a first packet to determine a value, wherein the routing component is arranged to provide the information associated with the first packet to the hashing component and the potential number of determined values see Fig. 25, col. 39, lines 36-65);
- (c) wherein the hashing component provides the packet to the first service flow identifier (see Fig. 25, col. 39, lines 36-65).

Fijolek does not explicitly disclose a first service flow identifier, the first service flow identifier being associated with the value. However, Cloonan discloses a first service flow identifier, the first service flow identifier being associated with the value (see Fig. 2a-2c, paragraphs [0045], [0047], [0049], [0050], [0054]). At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine the first service flow identifier, the first service flow identifier being associated with the value teaching by Cloonan with Fijolek. The motivation for doing so would have been to provide to dynamically change their service level by communicating with cable modem manager read on paragraph [0009]. Therefore, it would have been obvious to combine Cloonan and Fijolek to obtain the invention as specified in the claims 2, 3, 18, 19, and 27-31.

***Allowable Subject Matter***

6. Claims 13, 24, 34, and 35 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

***Response to Arguments***

7. Applicant's arguments with respect to claims 1-11, 14-22, 25-33, and 36 have been considered but are moot in view of the new ground(s) of rejection.

***Conclusion***

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

(1) US Patent 7,092,397 (Chandran et al) discloses method and apparatus for mapping an MPLS tag to a data packet in a headend.

(2) US Patent 7,002,914 (Cloonan) discloses congestion control in a network device having a buffer circuit.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Phirin Sam whose telephone number is (571) 272-3082. The examiner can normally be reached on Increased Flexitime Policy (IFP) Program.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jay Patel can be reached on (571) 272 - 2988. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Respectfully submitted,

Date: March 8, 2008

/Phirin Sam/  
Primary Examiner, Art Unit 2619